

REMARKS

Claims 1-66 are currently pending in the present application. The Examiner has rejected Claims 1 – 66 under 35 U.S.C. §103(a). In light of the remarks set forth below, reconsideration of the rejections set forth in the outstanding office action is respectfully requested. The following remarks are believed to be fully responsive to the outstanding Office Action and to render all claims at issue patentably distinct over the references cited.

REJECTION UNDER 35 U.S.C. §103

Claims 1-14 and 17-29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hoffman Jr. et al. (U.S. 6,264,823) in view of Madono (U.S. 4,584,328). Claims 15-16 and 30-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable Hoffman Jr. et al. (U.S. 6,264,823) in view of Madono (U.S. 4,584,328) and further in view of Johnson et al. (U.S. 5,126,089). Claims 32-66 stand rejected under 35 U.S.C. §103(a) over Johnson, et al. (U.S. 5,126,089) hereinafter “the Johnson reference” in view of Madono (U.S. 4,584,328) hereinafter “the Madono reference” and further in view of Hoffman, et al. (U.S. 6,264,823) hereinafter “the Hoffman reference”. These rejections are respectfully traversed.

The Hoffman reference in view of the Madono reference does not disclose, suggest, or render obvious Claims 1-14 and 17-29. For example, independent Claims 1 and 17 from which Claims 2-16 and 18-29 depend, include a representative limitation requiring a residual casting material comprising a disintegration additive. The Hoffman reference fails to disclose, suggest, or provide a motivation for removing residual casting material comprising a disintegration additive from a cast metal part.

The Hoffman reference relates to cleaning rust, scale, smut, petroleum derived contaminants, oils, greases, flux, carbonization, nonmetallic coatings, corrosion, paint, and dirt from metal parts, such as jewelry, grocery carts, metallic brake shoes, and electronic circuit boards (so that the metal parts can be recycled or reused). See Hoffman col. 1, lines 29-34, for example. There is no teaching or suggestion to use an apparatus to remove residual casting material comprising a disintegration additive, which are limitations in each of Claims 1-14 and 17-29.

“Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.” *In re Geiger*, 2 USPQ.2d 1276, 1278 (Fed. Cir. 1987). Here, the Hoffman reference teaches a parts cleaner, suggesting removal of paints, oils, dirt, grime, and general contaminants attendant with the use of various metal and non-metal components. There is no suggestion or motivation to remove hard residual casting materials left on a cast part, nor is there any reason to suggest that such an attempt would be successful. Further, the Hoffman reference fails to teach or suggest a motivation to remove residual casting materials that comprise a disintegration additive.

The Madono reference teaches use of a plastic microencapsulated additive for use in a phenolic resin bonded core. The Madono reference teaches that the additive must be coated to overcome various disadvantages associated with an uncoated additive, including potential contact with moisture that could reduce the strength of the core. For example, see the Madono reference at col. 2 lines 24 – 34. Thus, one of the stated objectives of the Madono reference is to prevent the additive from becoming wet or interfacing with moisture, *inter alia*.

"References that teach away from one another cannot serve to create a prima facie case of obviousness." McGinley v. Franklin Sports Inc., 60 USPQ.2d 1001, 1010 (Fed. Cir. 2001) *citing In re Gurley*, 31 USPQ.2d 1131, 1132 (Fed. Cir. 1994).

"When the Examiner proposes a combination that makes a prior art reference inoperable for its intended purpose, the resulting inoperable prior art reference may be considered to teach away from the proposed combination, i.e., not to teach the combination, thereby supporting a showing of nonobviousness." *In re Gordon*, 221 USPQ 1225,1227 (Fed. Cir. 1984).

It would not be obvious to combine the water-resistant microencapsulated compounds disclosed in the Madono reference with an apparatus in the Hoffman reference that teaches cleaning parts by immersing or contacting the target piece with water and electrolytes. See for example, the Hoffman reference col. 6 lines 51-52 and 64-65. This is in contravention to the Madono reference that teaches protecting the additive from water. Thus, there would be no motivation to combine the Hoffman reference with the Madono reference to arrive at the claimed subject matter in Claims 1-14 and 17-29.

Claims 15-16 and 30-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Hoffman reference in view of the Madono reference and further in view of the Johnson reference. The Hoffman reference fails to teach, suggest, or to motivate a combination with the Madono reference. Further, the Madono reference teaches away from combination with the Hoffman reference, because the Hoffman reference discloses removing residual casting material comprising a disintegration additive with water and Madono teaches avoiding exposure to water. The Johnson reference fails to disclose a disintegration additive in any form, and provides no

motivation or suggestion to do so. Additionally, the Johnson reference discloses exposing the sand core to humid (water-laden) air to weaken the binding of the sand core. The object of Madono is to protect the core material from weakening by exposure to water by protecting the additive from water. See the Madono reference, col. 2 lines 25-29. The objective of the Madono reference contradicts the objectives of either the Johnson reference or the Hoffman reference and would not lead one of skill in the art to combine their respective teachings. As such, the Claims 15-16, which depend from Claim 14 (and ultimately from independent Claim 1) have a limitation that the cleaner dispersing system is operable to remove residual casting material from a cast metal part, where the casting material is made using a disintegration additive. Further, Claims 30-31, which depend from Claim 29 (which ultimately depend from independent Claim 17), each comprise a limitation that requires a cast part having a surface that is coated with residual casting material comprising a disintegration additive. There is no teaching, suggestion of a disintegration additive in either the Hoffman reference or the Johnson reference. Further, the Madono reference teaches away from combination with either of the Hoffman or Johnson references, which rely upon exposure of a casting material to water, because the Madono reference discloses a prophylactic coating to protect components of the core from contact with water. This contravenes the objectives of the Hoffman and Johnson reference, and does not motivate combination of the Madono reference with either of them.

“When the Examiner proposes a combination that makes a prior art reference inoperable for its intended purpose, the resulting inoperable prior art reference may be considered to teach away from the proposed combination, i.e., not to teach the combination, thereby supporting a showing of nonobviousness.” *In re Gordon*, 221

USPQ 1225,1227 (Fed. Cir. 1984). It would not be obvious to combine the water-resistant microencapsulated alkali metal compounds protected from degradation as disclosed in the Madono reference with the Johnson reference that teaches exposure of a core material to water-laden (humid) air to achieve degradation. Thus, it is non-obvious to combine the Johnson reference with the Madono reference to arrive at the claimed subject matter in Claims 1-32, 39, and 42-45.

Claims 32-66 stand rejected under 35 U.S.C. §103(a) over the Johnson reference in view of the Madono reference and further in view of the Hoffman reference. These rejections are respectfully traversed. Claim 33 to 46 are dependent upon independent Claim 32, and therefore incorporate all of the limitations thereof. Claim 32 has the limitation of a casting material comprising a foundry sand, binder, and a disintegration additive, wherein a portion of the casting material remains on an industrial part. Likewise, Claims 48-66 depend from independent Claim 47, which has a limitation of using a casting material comprising foundry sand, binder, and a disintegration additive. As described above, the Johnson reference fails to disclose or suggest a disintegration additive and teaches away from combination with the Madono reference. Additionally, for the same reasons set forth above, the Hoffman reference fails to disclose or suggest a disintegration additive, and further, also the Madono reference teaches away from combination with Hoffman. As such, Claims 32-66 are not rendered obvious by the Johnson reference in view of the Madono reference and further in view of the Hoffman reference.

There is no suggestion or motivation to combine the cited references, and therefore, the claims at issue are patentably distinct over the cited references. The Examiner has not met the burden to establish a *prima facie* case of obviousness with

respect to Claims 1-66. Applicants respectfully request the Examiner withdraw the obviousness rejection and allow Claims 1-66.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: November 10, 2004

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